



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/567,300

01/04/2007

Hans-Jorg Feigel

AP 10756

6692

52203 7590 08/17/2010

CONTINENTAL TEVES, INC.
ONE CONTINENTAL DRIVE
AUBURN HILLLS, MI 48326-1581

EXAMINER

BURCH, MELODY M

ART UNIT

PAPER NUMBER

3657

MAIL DATE

DELIVERY MODE

08/17/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/567,300	Applicant(s) FEIGEL, HANS-JORG	
	Examiner Melody M. Burch	Art Unit 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/6/06, 1/4/07, & 5/25/10.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) 35 and 37-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-34, 36, 43 and 44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 23-44 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/6/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 35 and 37-42 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 5/25/10.
2. Applicant's election with traverse of Species I in the reply filed on 5/25/10 is acknowledged. The traversal is on the ground(s) that all of the embodiments relate to the same invention. This is not found persuasive because MPEP 806.04 allows restriction between different embodiments or species if the species are independent or distinct. MPEP 806.04(b) states that independent inventions may be related but not connected in design, operation, and effect. Examiner notes that in this case the various embodiments are restricted since although they are related, they are independent in the sense that they are not connected in design, operation, and effect because of their structural differences. Examiner notes that upon the allowance of a generic independent claim, rejoinder of the withdrawn claims may be possible.

The requirement is still deemed proper and is therefore made FINAL.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: element 39. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of the pressure source consisting of a high pressure reservoir which is loaded by a means of a motor-pump aggregate in the environment of elected species figure 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

Art Unit: 3657

number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as “Annotated Sheets” and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Specification

7. The disclosure is objected to because of the following informalities: in line 11 of paragraph [0028] the phrase “a unpressurized” should be changed to --an unpressurized—and in line 19 of paragraph [0028] the number “30” should be changed to --39--.

Appropriate correction is required.

Claim Objections

8. Claims 23-34 and 36 are objected to because of the following informalities: in line 2 from the bottom of claim 23 the phrase "separation valve (27-30)" should be changed because the term separation valve is singular but there are a plurality of numbers associated with the singular separation valve term. Appropriate correction is required. The remaining claims are objected to due to their dependence from claim 23.

9. Claim 31 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 31 is dependent on itself. For examining purposes, Examiner has interpreted the claim as depending from claim 30.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 29, 34, 43, and 44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 29. The phrase "connected in a manner which allows elastic oscillations with the body or a dashboard (66) of the motor vehicle or to a pedal system" is indefinite. It is unclear to the Examiner whether the claim intends to read that the

Art Unit: 3657

components are 1.) connected in a manner which allows elastic oscillations with the body or a dashboard (66) of the motor vehicle or 2.) connected to a pedal system or whether the oscillations phrase is intended to be associated with the body or the dashboard or the pedal system. Examiner has rejected the claim based on the former interpretation because of the manner in which the claim was written.

Re: claim 34. The phrase "the separation valves" in line 2 is indefinite since claim 23 only refers to a single separation valve.

Re: claim 43. The phrase "at least one separation valve" in the last line of the claim is indefinite. It is unclear to the Examiner whether the at least one separation valve recited in the last line of the claim is intended to be the same or different from the earlier recited separation valve.

Re: claim 44. The phrase "the separation valves" in line 3 is indefinite. It is unclear to the Examiner whether the separation valves of claim 44 are intended to be the same or different from the at least one separation valve or the separation valve recited in claim 43. Examiner suggests such language as --wherein the at least one separation valve includes a plurality of separation valves-- if this is Applicant's intention.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3657

13. Claims 23, 29, 32, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and 6007162 to Hinz et al. and US Patent 3133611 to Halsey et al.

Re: claims 23 and 36. Enomoto et al. show in figure 1 an electrohydraulic brake system for motor vehicles comprising: a brake pressure sensor PS1 or HB, which can be actuated by a brake pedal; a pressurizing medium reservoir RB1, having at least one electrohydraulic pressure source PP and the associated motor, by which pressure can be applied to wheel brakes WRL, WRR, WFL, WFR of the motor vehicle, wherein the brakes can be connected via at least one hydraulic connection, which can be sealed off by a separation valve V3; a device for identifying a deceleration instruction from a driver BS; inlet valves V13, V11, V9, V7 which are connected before the wheel brakes and outlet valves V14, V12, V10, V8 which are connected after the wheel brakes; an electronic control and regulation unit ECUB shown in figure 4, which, as a function of signals which are generated by the device for the detection of deceleration instruction from a driver, actuates the pressure source, the separation valve, as well as the inlet valves and the outlet valves; where the pressure source, the wheel brakes as well as the brake pressure sensor can be connected with the pressurizing medium reservoir as shown, but is silent with regards to a valve block, which receives the separation valve, as well as the inlet valves and the outlet valves, wherein the brake pressure sensor is integrated in the valve block in such a manner that all of the hydraulic connections between the brake pressure sensor and the separation valve, of which there is at least one, as well as the inlet valves are formed by bores in the valve block.

Art Unit: 3657

Maehara teaches in figure 9 the limitation wherein there is a valve block A, B4 which receives inlet valves HV1-4, outlet valves DV1-4, and an additional valve TCV.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the brake system of Enomoto et al. to have included a valve block receiving the inlet valves, outlet valves, and an additional valve in the form of a separation valve, in view of the teachings of Maehara, in order to provide a compact arrangement of valves as a space savings.

Hinz et al. teach in col. 1 line 66 – col. 2 line 2 the limitation wherein the pressure sensor of a brake system is integrated in the valve block in a bore accommodating the modulation valves.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the pressure sensor of Enomoto et al., as modified, to have been integrated in the valve block with the valves, in view of the teachings of Hinz et al., in order to provide a means incorporating the pressure sensor with relatively reduced structural efforts as suggested by Hinz et al.

With regards to specifically all of the hydraulic connections between the brake pressure sensor and the separation valve and the inlet valves being formed by bores in the valve block, Examiner turns to Halsey et al.

Halsey et al. teach in col. 3 lines 9-18 that locating components within a housing or block eliminates the need for any external pressure fluid conduits as the various fluid passages are cored openings in the valve block unit.

Art Unit: 3657

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified all of the hydraulic connections between the brake pressure sensor and the separation valve and the inlet valves to have been formed by bores in the valve block, in view of the teachings of Halsey et al., in order to provide a means of eliminating the need to have external hydraulic conduits which can be damaged to result in leaks.

Re: claim 29. Maehara teaches in figure 9 the limitation wherein the valve block A, B4 and a piston rod 38 which is used to actuate the brake pressure sensor are connected to a pedal system 37.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the valve block and piston rod of Enomoto et al., as modified, to have been structured, as taught by Maehara, in order to provide a compact construction to save valuable real estate within the vehicle.

Re: claim 32. Enomoto et al., as modified, teach in figure 1 of Enomoto et al. the limitation wherein the brake pressure sensor PS1 is connected to the input connection of the inlet valves via a second current free closed valve V5 disclosed in col. 12 lines 44-51 which is capable of or can be regulated by analog means.

14. Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and 6007162 to Hinz et al. and US Patent 3133611 to Halsey et al. as applied to claim 23 above, and further in view of US Patent 6354674 to Iwamoto et al.

Art Unit: 3657

Re: claim 24. Enomoto et al., as modified, teach in figure 1 of Enomoto et al. the limitation wherein the electrohydraulic pressure source consists of a pump PP which is driven by an electromotor disclosed in col. 8 lines 13-14, but is silent with regards to the pump and electromotor also being integrated in the valve block.

Iwamoto et al. teach in figures 1 and 15 the limitation wherein the motor 41, pump 42, and valve 5, and sensor 8 are all integrated within a housing or block 40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the brake system of Enomoto et al. to have included the pump and electromotor also being integrated in the valve block, in view of the teachings of Iwamoto et al., in order to provide a more compact assembly of parts with improved response time since the components are closer to each other making for quicker interactions.

With regards to specifically all of the hydraulic consisting of bores in the valve block, Examiner turns to Halsey et al.

Halsey et al. teach in col. 3 lines 9-18 that locating components within a housing or block eliminates the need for any external pressure fluid conduits as the various fluid passages are cored openings in the valve block unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified all of the particular hydraulic connections to have been formed by bores in the valve block, in view of the teachings of Halsey et al., in order to provide a means of eliminating the need to have external hydraulic conduits which can be damaged to result in leaks.

Re: claim 25. Enomoto et al., as modified, teach in figure 1 of Enomoto et al. the limitation wherein the electrohydraulic pressure source consists of a high pressure reservoir ACC which is loaded by means of a motor-pump aggregate (PP and associated electric motor as disclosed in col. 8 lines 13-14).

Re: claim 26. Enomoto et al., as modified, are silent with regards to the pressurizing medium reservoir being arranged on the valve block and formed in its entirety or partially by the valve block.

Iwamoto et al. teach in figure 15 a reservoir being formed in its entirety or partially by the valve block .

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the reservoir of Enomoto et al., as modified, to have been formed entirely or partially by the valve block, as taught by Iwamoto et al., in order to provide a means of forming a more compact structure and enabling fluid to travel a lesser distance to improve system response time.

With regards to specifically all of the hydraulic consisting of bores in the valve block, Examiner turns to Halsey et al.

Halsey et al. teach in col. 3 lines 9-18 that locating components within a housing or block eliminates the need for any external pressure fluid conduits as the various fluid passages are cored openings in the valve block unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified all of the particular hydraulic connections to have been formed by bores in the valve block, in view of the teachings of Halsey et al., in

Art Unit: 3657

order to provide a means of eliminating the need to have external hydraulic conduits which can be damaged to result in leaks.

Re: claim 27. Iwamoto et al. teach in figure 1 the limitation wherein an electronic control and regulation unit 3 is attached directly to a valve block 40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the electronic control and regulation unit to have been attached directly to a valve block of Enomoto et al., as modified, as taught by Iwamoto et al., in order to provide a more compact construction and facilitate assembly.

With regards to the specific limitation regarding the lack of use of lines, Examiner turns to Halsey et al.

Halsey et al. teach in col. 3 lines 9-18 that locating components within a housing or block eliminates the need for any external pressure fluid conduits as the various fluid passages are cored openings in the valve block unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified all of the particular connections to have been formed by bores in the valve block, in view of the teachings of Halsey et al., in order to provide a means of eliminating the need to have lines since the bores serve as the necessary conduit in order to reduce the number of parts needed for assembly resulting in a cost savings.

15. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and 6007162 to Hinz et al. and US Patent 3133611 to Halsey et al. and US Patent 6354674

Art Unit: 3657

to Iwamoto et al. as applied to claim 27 above, and further in view of US Patent 5971503 to Joyce et al.

Enomoto et al., as modified, is silent with regards to the limitation wherein the hydraulic connection between the pressure source and the reservoir and optionally parts of the pressure medium reservoir can be heated.

Joyce et al. teach in col. 3 lines 10-17 the use of the particular areas set forth above being heated.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the particular areas set forth above of Enomoto et al., as modified, being heated, in view of the teachings of Joyce et al., in order to provide a means of reducing the viscosity of the fluid to ensure rapid flow through the system to improve system response times.

16. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and 6007162 to Hinz et al. and US Patent 3133611 to Halsey et al. as applied to claim 23 above, and further in view of US Patent 5219442 to Burgdorf et al.

Enomoto et al., as modified, are silent with regards to the reservoir presenting a first chamber as well as a second chamber where the aspiration side of the pump and via the outlet valves the wheel brakes are connected to the first chamber while the brake pressure sensor is connected to the second chamber via a first current free closed valve which can be regulated by analog means.

Burgdorf et al. teach in figure 1 a reservoir 14 presenting a first chamber on the left side of the reservoir partition as well as a second chamber on the right side of the reservoir partition where the aspiration side of the pump 16 and via the outlet valves 15 the wheel brakes 11 are connected to the first chamber while the brake pressure sensor 4 is connected to the second chamber via a first current free closed valve 22 as disclosed in col. 5 lines 9-11 which is capable or can be regulated by analog means as functionally recited.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the arrangement of the pump and outlet valves with respect to the reservoir of Enomoto et al., as modified, to have been structured as taught by Burgdorf et al., in order to provide a means of quickly replenishing the fluid to be circulated throughout the system by the pump.

17. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and 6007162 to Hinz et al. and US Patent 3133611 to Halsey et al. and US Patent 5219442 to Burgdorf et al. as applied to claim 30 above, and further in view of US Patent 4736992 to Hendrickson.

Enomoto et al., as modified, is silent with regards to the presence of one or more devices for detecting the pressurizing medium level in the first and the second chamber.

Hendrickson teaches in figure 1 the use of one device 60 for detecting the pressurizing medium level in the first and second chamber of the reservoir 28.

Art Unit: 3657

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the reservoir of Enomoto et al., as modified, to have included a device for detecting the medium level, as taught by Hendrickson, in order to provide a means of knowing whether there is adequate fluid to ensure proper fluid flow through the braking system.

18. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and 6007162 to Hinz et al. and US Patent 3133611 to Halsey et al. as applied to claim 23 above, and further in view of US Patent 6290310 to Kusano.

Enomoto et al., as modified, teach in Enomoto et al. the limitation of the inlet and outlet valves being designed as electromagnetically 2/2-way control valves but is silent with regards to the two types both being current free open valves.

Kusano teaches in col. 4 lines 19-25 the limitation of the inlet and outlet valves being designed as electromagnetically current free open valves.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the inlet and outlet valves of Enomoto et al., as modified, to have both been current free open valves, in view of the teachings of Kusano, in order to provide an alternate means of controlling fluid flow to and from the wheel brakes. With respect to claim 34 the separation valves may be considered as V3, V4, V5, and V6.

Art Unit: 3657

19. Claims 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and US Patent 3671084 to Woodward.

Enomoto et al. show in figure 1 an electrohydraulic brake system for motor vehicles comprising: a brake pressure sensor PS1 or HB, which can be actuated by a brake pedal; a pressurizing medium reservoir RB1, having at least one electrohydraulic pressure source PP and the associated motor, by which pressure can be applied to wheel brakes WRL, WRR, WFL, WFR of the motor vehicle, wherein the brakes can be connected via at least one hydraulic connection, which can be sealed off by a separation valve V3, V4, V5 or VC2; a device for identifying a deceleration instruction from a driver BS; inlet valves V13, V11, V9, V7 which are connected before the wheel brakes and outlet valves V14, V12, V10, V8 which are connected after the wheel brakes; an electronic control and regulation unit ECUB shown in figure 4, which, as a function of signals which are generated by the device for the detection of deceleration instruction from a driver, actuates the pressure source, the separation valve, as well as the inlet valves and the outlet valves; where the pressure source, the wheel brakes as well as the brake pressure sensor can be connected with the pressurizing medium reservoir as shown and shows the production of a continuous decrease of hydraulic pressure in the wheel brakes by way of a decrease in the line leading up to the wheel brakes by at least one separation valve VC2, but is silent with regards to a valve block, which receives the separation valve, as well as the inlet valves and the outlet valves

Art Unit: 3657

and the production of a continuous buildup of hydraulic pressure in the wheel brakes by electrohydraulic pressure source.

Maehara teaches in figure 9 the limitation wherein there is a valve block A, B4 which receives inlet valves HV1-4, outlet valves DV1-4, and an additional valve TCV.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the brake system of Enomoto et al. to have included a valve block receiving the inlet valves, outlet valves, and an additional valve in the form of a separation valve, in view of the teachings of Maehara, in order to provide a compact arrangement of valves as a space savings.

Woodward teaches in the beginning of claim 1 the production of a continuous buildup of hydraulic pressure in the wheel brakes by electrohydraulic pressure source.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the brake system of Enomoto et al., as modified, to have included a production of a continuous buildup of hydraulic pressure in the wheel brakes by the pressure source, as taught by Woodward, in order to ensure the presence of fluid pressure at all times to be able to provide some level of braking at all times.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 6969128 to Sekihara teaches the use of a braking system in which the ECU is mounted directly to the block. 2002/0149259 to Otomo et

Art Unit: 3657

al. teach the use of a braking system that integrates valves and pressure sensors in block 10.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 571-272-7114. The examiner can normally be reached on Monday-Friday (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mmb
August 15, 2010

/Melody M. Burch/
Primary Examiner, Art Unit 3657